

REMARKS

Reconsideration of the pending application is respectfully requested on the basis of the following particulars:

Objection to the drawings

The Examiner has objected to the drawings “because Figures 3 and 5 are not labeled to describe the illustration.” It is respectfully submitted that, from the language of the Official Action, the exact nature of this objection is not clear because relevant elements of each of the figures is clearly marked with a reference character, and the reference characters are identified within the specification. Furthermore, each of the illustrations is described, both in the section of the application entitled “Brief description of the drawings” on page 3 of the application, and in the section of the application entitled “Examples of preferred embodiments” on pages 6 and 7. Thus, any shortcoming of the drawings, or the related sections of the specification, is not apparent from the objection as stated.

Applicant’s representative contacted the Examiner by telephone on October 6, 2005, to clarify the nature of this objection. Based on this telephone conversation, Applicant’s representative understands the Examiner to require a legend on each of the drawings to indicate, on the face of each drawing, the nature or meaning of each of the reference characters. While the basis for such a requirement has not been identified, the drawings have been so corrected to include a legend on each of Fig. 3 and 5 to indicate the nature or meaning of each of the reference characters.

Revised Figs. 3 and 5 are shown in the “Replacement Sheets” of drawing appended herewith. Figs. 3 and 5 have been corrected to each include a legend identifying and defining the reference characters used in the figures.

The specification has also been amended to include additional references to the reference characters used on Figs. 3 and 5 in an effort to more definitely and clearly define

each reference character, and to improve the description of the drawings. No new matter has been added.

Withdrawal of this objection is respectfully requested.

Objections to the specification

The Examiner has objected to the specification “because the specification does not follow the document structure [as identified in section 608.01(a) of the MPEP by form paragraph 6.01].” As with the drawing objection discusses above, it is respectfully submitted that the exact nature of this objection is not clear because the specification includes several section headings generally in accordance with (although not necessarily matching verbatim) the headings suggested.

It is noted that the identified document structure is described as *guidelines suggested* for an applicant’s use, and as a *preferred* layout for the specification of a utility application. It is respectfully submitted that there is no expressed requirement for each and every section heading to appear in literal, *ipsissimis verbis* agreement with the suggested headings.

During the above noted telephone conversation with the Examiner, the Examiner noted that there is no section heading at all identifying a “brief summary of the invention.” The specification has been amended to insert such a heading.

Withdrawal of the objection is therefore respectfully requested.

Rejection of claims 1, 7, and 8 under 35 U.S.C. § 102(b)

Claims 1, 7, and 8 presently stand rejected as being anticipated by Geiger et al (U.S. 5,544,757). This rejection is respectfully traversed for the following reasons.

Claims 1, 7, and 8 have been cancelled. Claims 1 and 8 have been replaced by new independent claims 12 (corresponding to cancelled claim 1) and 13 (corresponding to cancelled claim 8). Claims 2-6 and 9-11 have been amended to correct their

dependencies, with claims 2-6 now depending from independent claim 12, and claims 9-11 now depending from independent claim 13.

The aim of the present invention is to improve the sorting of logs to be used as saw timber, in order to make a better classification of the individual logs with respect to selected properties, such as shape and dimension, and thereby maximize the saw yield.

Systems for sorting logs for sawing must be provided with information regarding the bark thickness of the log. In the present invention, image analysis is used to detect the borderline between the bark and the wood surface beneath the bark, the borderline being known as the wood surface profile. In addition to the image processing, at least one additional measurement system is used in conjunction with the image processing to overcome problems of contamination of the log or log end (such as dirt, pitch, ice, etc) that may prevent the image analysis from finding a complete wood surface profile around the whole end of the log.

A method of the present invention, according to new claim 12, comprises the steps of 1) using an optical image analysis system for determining positions of individual points of a wood surface profile from an optical image of a log end; 2) using at least one further measurement system to determine positions of individual points on the log end; and 3) combining the positions determined from the optical image analysis system and the at least one further measurement system to create a wood surface profile. New claim 13 recites an apparatus comprising 1) an optical image analysis system for determining positions of individual points of a wood surface profile from an optical image of a log end; 2) at least one further measurement system to determine positions of individual points on the log end.

It is respectfully submitted that Geiger fails to disclose or suggest such a method or system as required by claims 12 and 13. The apparatus described by Geiger performs a classification of logs by analysis of the surface of the log *after the log has been debarked*. The logs are classified by measuring the brightness of the logs. However, Geiger does not disclose or suggest determining the position of individual points of any surface of

the log, and more particularly Geiger does not disclose or suggest determining of the position of individual points of a wood surface profile that is a boundary between the wood and the bark of the log. Furthermore, because Geiger disclose or suggest determining of the position of individual points of a wood surface profile, it cannot be said that Geiger discloses or suggests an optical image analysis system or any further measurement system for determining of the position of individual points of a wood surface profile.

The Examiner states that Geiger discloses a method for detecting the wood surface profile of a log, referring to column 4, lines 39-45. However, such a disclosure is lacking because the passage does not contain any indication of detecting the wood surface profile. Only a brightness of the wood is measured, and an image of the surface recorded. Neither of these operations reveals any detection of a wood surface profile.

The Examiner also states that Geiger, at column 8, lines 12-19, discloses that measurements resulting from image analysis are integrated with measurement results obtained by some other measuring method to determine a wood surface profile. It is respectfully submitted that such a teaching is entirely lacking from this passage. Any calculation made from the measurement of the brightness of the logs is used only for separating the pieces of wood into different quality groups, and not for the calculation of a wood surface profile.

Therefore, it is respectfully submitted that Geiger does not disclose or suggest each and every element as set forth in either claim 12 or claim 13.

"A claim is anticipated *only if each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." (emphasis added) *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The *identical invention* must be shown in as complete detail as is contained in the ... claim." (emphasis added) *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Because Geiger does not disclose or suggest each and every element as set forth in either claim 12 or claim 13, it is respectfully submitted that claims 12 and 13 are each patentable over the cited reference. Additionally, it is respectfully submitted that claims 2-6, which depend from claim 12, and claims 9-11, which depend from claim 13, are also allowable over the cited references. Withdrawal of the rejection is therefore respectfully requested.

Rejection of claims 2-5 and 9-11 under 35 U.S.C. § 103(a)

Claims 2-5 and 9-11 presently stand rejected as being unpatentable over Geiger in view of Savard et al (U.S. 6,072,890). This rejection is respectfully traversed for the following reasons.

As described above, Geiger fails to teach or suggest each and every element as set forth in the claims 2-5 and 9-11. It is respectfully submitted that Savard fails to overcome the deficiencies of Geiger as discussed above, without consideration of the additional limitations required by each of the claims 2-5 and 9-11. Therefore, Geiger in combination with Savard fail to provide a prima facie basis for rejection of these claims.

Additionally, there is no motivation or suggestion to lead a person of ordinary skill in the art to combine these references to obtain the presently claimed invention. Neither Geiger nor Savard disclose or suggest the problem solved by the present invention of determining the *wood surface profile* (boundary between the bark and the underlying wood) *before the bark is removed from the log*.

The Geiger apparatus functions to measure a brightness of a log surface *after the removal of the bark* to indicate a quality or completeness of the removal of the bark. Since this function is performed after the removal of the bark, Geiger provides no teaching of how to determine the wood surface profile under the bark of a log *before the bark removal* in order to maximize the saw yield.

Savard provides a method and apparatus for sorting lumber pieces of different species. According to the Savard method and apparatus, a cut end of a lumber piece is coated with an indicator liquid that produces a reaction product characteristic of various

species. The ends of the lumber pieces are scanned by an optical system that *does not* create an image or perform an image analysis, but instead only measures the reflected light to determine a specie according to a maximum reflectivity at different wave lengths. Thus, there is nothing within the Savard patent to teach or suggest any application of the Savard method and apparatus to the problem of determining the wood surface profile under the bark of a log as solved by the present invention.

It is therefore respectfully submitted that claims 2-5 and 9-11 are allowable over the cited references. Accordingly, withdrawal of the rejection is respectfully requested.

Conclusion

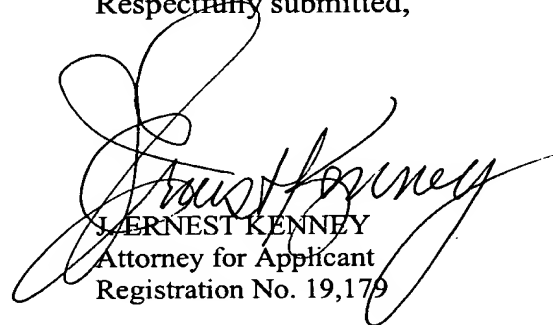
In view of the amendments to the claims, and in further view of the foregoing remarks, it is respectfully submitted that the application is in condition for allowance. Accordingly, it is requested that claims 2-6 and 9-13 be allowed and the application be passed to issue.

If any issues remain that may be resolved by a telephone or facsimile communication with the Applicant's attorney, the Examiner is invited to contact the undersigned at the numbers shown.

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Respectfully submitted,



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